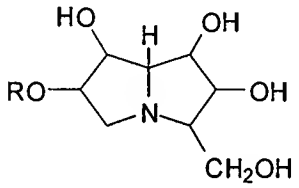
CLAIM AMENDMENTS

1-42 (canceled)

43. (new) A method of polarizing an immune response to an antigen in a subject, which method comprises administering to the subject a vaccine comprising one or more antigen(s) and an adjuvant composition comprising a Th1-activating alkaloid in an amount effective to polarize an immune response to the antigen(s) from type 2 towards type 1, wherein the alkaloid has the formula:



wherein R is selected from the group comprising hydrogen, straight or branched, unsubstituted or substituted, saturated or unsaturated acyl, alkyl (e.g. cycloalkyl), alkenyl, alkynyl and aryl groups, or a pharmaceutically acceptable salt or derivative thereof.

44. (new) The method of claim 43 wherein the Th1-activating alkaloid stimulates the expression of IL-12 *in vitro* in lymphocytes and/or dendritic cells.

45. (new) The method of claim 43 wherein the adjuvant composition further comprises an auxiliary adjuvant.

46. (new) The method of claim 44 wherein the adjuvant composition further comprises an auxiliary adjuvant.

47. (new) The method of claim 45 wherein the auxiliary adjuvant is selected from:

(a) a type 2 adjuvant (e.g. alum and/or MF59); and/or

(b) a cytokine;

(c) a depot-forming agent;

(d) a saponin;

(e) a submicron oil-in-water emulsion;

(f) a CpG;

(g) a lipid A derivative;

(h) an MDP;

(i) an ISCOM®;

(j) an antigen-presenting cell (APC) (for example, a dendritic cell);

(k) a cytotoxic T lymphocyte (CTL); and

(l) a synergistic combination of any of the above.

48. (new) The method of claim 46 wherein the auxiliary adjuvant is selected from:

(m)a type 2 adjuvant (e.g. alum and/or MF59); and/or

(n) a cytokine;

(o) a depot-forming agent;

(p) a saponin;

(q) a submicron oil-in-water emulsion;

(r) a CpG;

(s) a lipid A derivative;

(t) an MDP;

(u) an ISCOM®;

(v) an antigen-presenting cell (APC) (for example, a dendritic cell);

(w)a cytotoxic T lymphocyte (CTL); and

a synergistic combination of any of the above.

49. (new) The method of claim 43 wherein the vaccine is selected from: (a) a subunit vaccine; (b) a conjugate vaccine; (c) a DNA vaccine; (d) a recombinant vaccine; (e) a mucosal vaccine; (f) a therapeutic vaccine; (g) a prophylactic vaccine.

50. (new) The method of claim 48 wherein the vaccine is selected from: (a) a subunit

vaccine; (b) a conjugate vaccine; (c) a DNA vaccine; (d) a recombinant vaccine; (e) a mucosal vaccine; (f) a therapeutic vaccine; (g) a prophylactic vaccine.

51. (new) The method of claim 43 wherein the one or more antigen(s) are selected from:

(a) nucleic acid(s) which encode one or more antigenic protein(s);

(b) protein(s) or peptide(s);

(c) glycoprotein(s);

(d) polysaccharide(s) (e.g. carbohydrate(s));

(e) fusion protein(s);

(f) lipid(s);

(g) glycolipid(s);

(h) peptide mimic(s) of polysaccharides;

(i) carbohydrate(s) and a protein(s) in admixture;

(j) carbohydrate-protein conjugate(s);

(k) cells or extracts thereof;

(l) dead or attenuated cells, or extracts thereof;

(m) tumour cells or extracts thereof;

(n) viral particles (e.g. attenuated viral particles or viral components);

(o) allergen(s);

(p) mixtures of any of (a) to (o).

52. (new) The method of claim 50 wherein the one or more antigen(s) are selected from:

(q) nucleic acid(s) which encode one or more antigenic protein(s);

(r) protein(s) or peptide(s);

(s) glycoprotein(s);

(t) polysaccharide(s) (e.g. carbohydrate(s));

(u) fusion protein(s);

(v) lipid(s);

(w) glycolipid(s);

(x) peptide mimic(s) of polysaccharides;

(y) carbohydrate(s) and a protein(s) in admixture;

(z) carbohydrate-protein conjugate(s);

(aa) cells or extracts thereof;

(bb) dead or attenuated cells, or extracts thereof;

(cc) tumour cells or extracts thereof;

(dd) viral particles (e.g. attenuated viral particles or viral components);

(ee) allergen(s);

(ff) mixtures of any of (a) to (o).

53. (new) The method of claim 51 wherein the one or more antigen(s) comprise a bacterial antigen, a viral antigen, a fungal antigen, a protozoal antigen, a prion antigen, a neoantigen, a tumour-associated antigen or a self-antigen.

54. (new) The method of claim 52 wherein the one or more antigen(s) comprise a bacterial antigen, a viral antigen, a fungal antigen, a protozoal antigen, a prion antigen, a neoantigen, a tumour-associated antigen or a self-antigen.

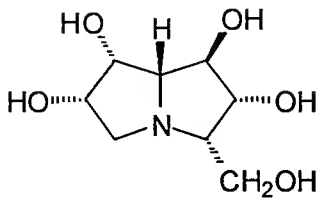
55. (new) The method of claim 51 wherein the one or more antigen(s) are dose-spared.

56. (new) The method of claim 54 wherein the one or more antigen(s) are dose-spared.

57. (new) The method of claim 43 wherein the vaccine is administered orally, mucosally, topically, epicutaneously, intramuscularly, intradermally, subcutaneously, intranasally, intravaginally, sublingually or *via* inhalation.

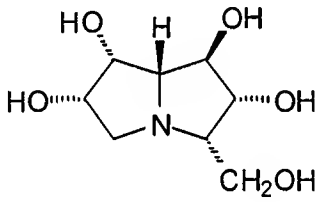
58. (new) The method of claim 56 wherein the vaccine is administered orally, mucosally, topically, epicutaneously, intramuscularly, intradermally, subcutaneously, intranasally, intravaginally, sublingually or *via* inhalation.

59. (new) The method of claim 43 wherein the Th-1 activating alkaloid is 3,7-di*epi*casuarine has
the formula:



or a pharmaceutically acceptable salt or derivative thereof.

60. (new) The method of claim 58 wherein the Th-1 activating alkaloid is 3,7-di*epi*casuarine has the formula:



or a pharmaceutically acceptable salt or derivative thereof.

61. (new) A method of polarizing an immune response to an antigen in a subject, which method comprises administering to the subject a vaccine comprising one or more antigen(s) and an adjuvant composition comprising a Th1-activating alkaloid in an amount effective to polarize an immune response to the antigen(s) from type 2 towards type 1, wherein the alkaloid is selected from the following classes:

(a) piperidines alkaloids;
(b) pyrroline alkaloids;
(c) pyrrolidines alkaloids;
(d) pyrrolizidine alkaloids;
(e) indolizidine alkaloids;
(f) nortropane alkaloids.

62. (new) A method of polarizing an immune response to an antigen in a subject, which method comprises administering to the subject a vaccine comprising one or more antigen(s) and an adjuvant composition comprising a Th1-activating alkaloid in an amount effective to polarize an immune response to the antigen(s) from type 2 towards type 1, wherein the alkaloid is a pyrrolizidine alkaloid.